UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,323	12/10/2001	Bruce Cole	Juniper-1 (JNP-0031)	1492

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STRAUB & POKOTYLO 620 TINTON AVENUE BLDG, B, 2ND FLOOR TINTON FALLS, NJ 07724-9071		

EXAMINER
NG, CHRISTINE Y

ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/014,323	COLE ET AL.
	Examiner	**Art Unit**	
	Christine Ng	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 October 2006</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-8 and 10-30</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☒ Claim(s) <u>11-28 and 30</u> is/are allowed.
6)☒ Claim(s) <u>1-8,10 and 29</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>10 December 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claim 4 is objected to because of the following informalities:

a) In line 16: --;-- should be inserted after "suppressed".

b) In line 17: "or" should be changed to --of--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1, 3, 5-8, 10 and 29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 6,049,524 to Fukushima et al in view of U.S.

Publication No. 2002/0191547 to Akyol et al.

Referring to claim 1 and 10, Fukushima et al disclose in Figure 2 a router

having a designating routing facility (route calculation unit 11a) and a standby routing

facility (route calculation unit 11b) for processing information related to routing. Refer to

Column 5, lines 53-59. The method comprises:

a) Executing, with the designated routing facility, a routing protocol (shortest path

first SPF algorithm) to generate network topology information. Route calculation unit

11a determines least cost paths in the network using the link-state database 22 and

registers the shortest paths in the routing table 19. Refer to Column 6, lines 50-60.

b) Providing network state information received (network link-state information)

by the designated routing facility to the standby routing facility. "Network link-state

information that the route calculation unit 11a received from the routers 30 is first held in

the route calculation unit 11a and further sent through the internal bus 12 to the route

calculation unit 11b" (Column 7, lines 34-38).

c) Executing, with the standby routing facility, a routing protocol (SPF algorithm)

based on the network information (network link-state information) provided by the

designated routing facility, but such that signaling from the standby routing facility to

external nodes is suppressed. After receiving the network link-state information from

the route calculation unit 11a, route calculation unit 11b fetches data from its link-state

database 22, performs route calculations using SPF, and holds routing tables with the

same content as route calculation unit 11a. Refer to Column 7, lines 39-45. Route

calculation unit 11b does not exchange routing packets through forwarding process

units 13 until switchover has occurred. Refer to Column 7, lines 30-34 and lines 46-52

and Column 9, lines 6-37.

Fukushima et al do not disclose providing a *copy* of the network state

information, wherein the act of providing a copy of network state information is

performed regardless of a state of the network topology information generated by the

designated routing facility.

Akyol et al disclose in Figure 1 a packet switching apparatus 100 that requires at

least two cards running IS-IS, with one acting as a backup for the other. The backup

card maintains a copy of the dynamic databases synchronized with the state of the

databases on the active card. The dynamic databases include a link state database, an

adjacency database, a circuit database, and a forwarding database. The act of

providing a copy of network state information is performed regardless of a state of the

network topology information, since the backup card maintains a copy of the database

synchronized with the database on the active card. Refer to Sections 0024-0028.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to include providing a *copy* of the network state information,

wherein the act of providing a copy of network state information is performed regardless

of a state of the network topology information generated by the designated routing

facility. One would be motivated to do so in order to provide a copy of the network state

information to the backup routing facility so that when the active routing facility fails, the

backup can assume the active role.

Referring to claim 3, Fukushima et al disclose in Figure 2 that the routing protocol

is a link state routing protocol (SPF algorithm). Refer to Column 1, lines 16-30 and

Column 6, lines 50-60.

Referring to claim 5, Fukushima et al disclose in Figure 2 that the method further

comprises: d) if a failure of the designated routing facility is determined, then electing

the standby routing facility as the designated routing facility. Refer to Column 7, lines

46-52.

Referring to claim 6, Fukushima et al disclose in Figure 2 that the act of electing

includes having the standby routing facility assume identification information of the

failed designated routing facility. Refer to Column 7, lines 46-52. When there is a

switchover, other routers 30 "do not regard the multiplex router 10 as having run into a failure nor do they rewrite the routing tables they hold..." (Column 8, lines 15-21).

Referring to claim 7, Fukushima et al disclose in Figure 2 that the designated routing facility and the standby routing facility share a common forwarding facility (forwarding process units 13). Refer to Column 7, lines 30-52.

Referring to claim 8, refer to the rejection of claims 1 and 10. Furthermore, Fukushima et al disclose that the standby routing facility executes a routing protocol (SPF algorithm) based on the network information provided by the designated routing facility to generate network topology information (stored in routing tables). After receiving the network link-state information from the route calculation unit 11a, route calculation unit 11b fetches data from its link-state database 22, performs route calculations using SPF, and holds routing tables with the same content as route calculation unit 11a. Refer to Column 7, lines 39-45; and Column 8, lines 31-36.

Referring to claim 29, Fukushima et al disclose in Figure 2 that the router further comprises: c) means (state monitor module 20 in route calculation unit 11b) for electing the standby routing facility as a new designating routing facility if a failure of the designated routing facility is determined. Refer to Column 8, lines 45-54.

4.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,049,524 to Fukushima et al in view of U.S. Publication No. 2002/0191547 to Akyol et al, and in further view of U.S. Publication No. 2002/0021675 to Feldmann.

Fukushima et al do not disclose that the routing protocol is the IS-IS protocol.

Feldmann disclose that an autonomous system AS typically employs an

intradomain routing protocol, such as IS-IS, to select paths across the backbone. The

routers use the IS-IS protocol to exchange link-state information and compute the

shortest paths in the network. This information is used to construct a forwarding table.

Refer to Sections 0022 and 0032. Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to include that the routing

protocol is the IS-IS protocol, the motivation being that the IS-IS protocol is a typical

intradomain routing protocol used to create forwarding tables.

5.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,049,524 to Fukushima et al in view of U.S. Publication No. 2002/0191547

to Akyol et al, and in further view of U.S. Patent No. 6,590,867 to Ash et al.

Refer to the rejection of claims 1 and 10.

Fukushima et al do not disclose wherein the act of providing a copy of network

topology information is effected by having the designated routing facility flood such

information onto a local area network within the router.

Ash et al disclose that routers within a network exchange information with each

other by a flooding technique so that each router maintains a database of the network

topology. Using the information in the database, each router selects a path for each

packet in accordance with cost metrics. Refer to Column 1, lines 19-43; and Column 5,

lines 7-40. Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to include wherein the act of providing a copy of

network topology information is effected by having the designated routing facility flood

such information onto a local area network within the router. One would be motivated to

do so since routers typically exchange network topology information with one another

using a flooding technique.

Allowable Subject Matter

6.   Claims 11-28 and 30 are allowed.

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Christine Ng whose telephone number is (571) 272-

3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

.If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C. Ng
December 5, 2006

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